



TINA CURTIS

# OXYGEN

Element Symbol: **O**

Atomic Number: **8**

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The first reported preparation of pure oxygen was by Cornelius Drebbel, a Dutch inventor, around the 17th century. Drebbel did not recognise the gas as an element though. Credit for the discovery of oxygen is generally given to Joseph Priestly in the 18th century, as he studied pure oxygen extensively and found that it was in fact an element. Priestly was an English minister with 'left' views for the time, which led at some stage to a mob burning his church and home. He fled to the US as a result.

Oxygen exists in nature as dioxygen (O<sub>2</sub> or O=O), and makes up about 21% of air. Oxygen is very reactive and generally is not found as O<sub>2</sub> gas on other planets, but plants on Earth have done a sterling job of converting carbon dioxide to oxygen for quite a few years now.

Oxygen gas is colourless, odourless and tasteless, but if compressed to a liquid it is pale blue and I imagine it tastes cold. Oxygen in excited states is responsible for the bright red and yellow-green colours of the aurora phenomenon.

Oxygen can also exist as trioxygen (O<sub>3</sub>), otherwise known as ozone. It's usually formed when ultraviolet light hits an O<sub>2</sub> molecule, but high voltage discharges can also have the same effect, as with older photocopiers!

I suppose the main use of oxygen that's important to humans, is the whole supporting of life aspect. Oxygen plays an important role in DNA and, in numerous forms within the body, makes up about half of the mass of the average person. Of course, we also need a regular supply of O<sub>2</sub> gas to support bodily functions.

Industrially, oxygen is used for too many things to list, or to look up. O<sub>2</sub> gas is generally produced on a large scale from liquid air, and is used extensively for steel making, as well as metal cutting (oxy-acetylene torches) and by the chemicals industry.

*Provided by the element sponsor Steve Cox*

## ARTISTS DESCRIPTION

With this print I wanted to highlight the similarities between the vein patterns of a leaf and street patterns of a suburban neighbourhood. The leaf is taking in CO<sub>2</sub> and producing oxygen, and the suburb is doing the reverse. Similarly, the image reverses depending on your point of view.

**TINA CURTIS**